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Abstract

Introduction: Current data on the prevalence and psychosocial correlates of sexual violence in the Republic of Ireland is lacking, with the most recent sexual abuse and violence survey dating back to 2001. The current study sought to identify what proportion of Irish adults have experienced sexual violence, if there are sex differences in exposure to different forms of sexual violence, and to what extent different forms of sexual violence are associated with adverse psychosocial outcomes.

Methods: A nationally representative sample of Irish adults (N = 1,020) completed self-report measures of history of sexual violence and mental health.

Results: Approximately one-in-three (34.4%) Irish adults experienced some form of sexual violence, including 14.8% who were sexually assaulted (raped) and 31.1% who were sexually harassed. Women were significantly more likely than men to have experienced all forms of sexual violence (ps < .001), with the exception of sexual assault by a parent or guardian. All forms of sexual violence were associated with an increased likelihood of serious mental health problems, with sexual assault by a parent/guardian associated with several other psychosocial outcomes in life, including education achievement, history of being taken into state care, salary, and employment status.

Discussion: Sexual violence is a common experience in the general population and women are disproportionately affected (1-in-2 women versus 1-in-5 men). Additional resources to increase mental health care among survivors of sexual violence is urgently needed. How our findings compare to Ireland's previous sexual abuse and violence survey and the implications of our findings for policy are discussed.

Sexual violence and its associated psychosocial effects in Ireland

Sexual violence involves any sexual act, or attempt to obtain a sexual act, directed against an individual's sexuality, against someone's will, where one is forced to participate in a sexual act without their consent. Lifetime prevalence estimates of sexual violence vary across the world, and meaningful comparisons across studies are compromised by the use of different definitions of sexual violence, different legal definitions of rape and sexual violence, different study methodologies, and different social norms that influence the acknowledgement and disclosure of sexual violence (European Institute for Crime Prevention and Control & United Nations Office on Drugs and Crime, 2010).

Globally, women are at higher risk of sexual violence than men (Benjet et al., 2016; World Health Organization, 2017b). In a study of multiple European countries, the proportion of women who experienced physical and/or sexual violence since the age of 15 ranged from 20% in Austria, to 52% in Demark, with 26% of women in Ireland indicating a history of such violence (European Union Agency for Fundamental Rights, 2014). Prior to the age of 15, 9% of Irish women reported experiencing some form of sexual violence, with estimates ranging from 1% in Romania to 20% in France and the Netherlands. Additionally, 19% of Irish women reported experiencing sexual harassment in the last 12 months, a figure comparable to the EU average of 21% (European Union Agency for Fundamental Rights, 2014).

In the short-term, sexual violence increases the risk of physical injury and sexually transmitted infections (Mathur et al., 2018; Wong & Balemba, 2016), as well as mental health problems such as posttraumatic stress disorder (PTSD), depression, and anxiety (Dworkin,

Menon, Bystrynski, & Allen, 2017). Long-term consequences include a higher risk of prolonged psychopathology, drug and alcohol misuse, suicide (Khadr et al., 2018), and chronic diseases (Basile, Smith, Chen, & Zwald, 2020). For females, sexual violence is also associated with an increased risk of reproductive health problems including unwanted pregnancy, eclampsia, emergency caesarean section, obstetric complications, and poor neonatal health outcomes (Bellizzi et al., 2019; Finnbogadottir, Baird, & Thies-Lagergren, 2020; Gisladottir et al., 2016; Henriksen, Schei, Vangen, & Lukasse, 2014). Sexual violence is also associated with increased risk of unemployment, lower income, and poorer work performance (Loya, 2015; Tjaden & Thoennes, 2006), as well as an increased risk of long-term offending behaviour (Papalia, Ogloff, Cutajar, & Mullen, 2018), rejection by family and/or one's community (Ba & Bhopal, 2017), and withdrawal from interpersonal relationships (World Health Organization, 2002). Sexual abuse occurring in childhood is also associated with an increased risk of revictimization later in life (Tjaden & Thoennes, 2000).

The only dedicated study of sexual violence in Ireland was conducted in 2001, when the Sexual Abuse and Violence in Ireland (SAVI) survey found that 40.1% of women and 28.6% of men experienced some form of sexual abuse or assault in their lifetime (McGee, Garavan, de Barra, Byrne, & Conroy, 2002).[1] Consistent with global trends (Benjet et al., 2016), women and girls were significantly more likely to have experienced serious sexual violence than men and boys. Amongst those who experienced any form of sexual violence, 25% of women and 16% of men met diagnostic requirements for PTSD, and they were also more likely to have been medically treated for anxiety or depression, and to have received inpatient psychiatric care.

In the intervening two decades, Irish society has undergone substantial liberalisation and secularisation, particularly with respect to matters of sexual health, identity, and reproduction

rights. For example, in 2015, Ireland became the first country in the world to legalise same-sex marriage by popular vote, and in 2018, a referendum brought about the removal of the long-contested constitutional ban on abortion. The Criminal Justice Act 2006 allowed statements made by a victim of sexual violence to be admissible in lieu of oral testimony, and the Criminal Law Act 2017 offered a statutory definition of sexual consent and placed a greater emphasis on mandatory reporting of sexual offences against children.

In light of these societal changes and recognising the need for up-to-date data on the occurrence of sexual violence in the general population, as well as an improved understanding of the psychosocial correlates of sexual violence in Irish society, the current study was undertaken. Using a nationally representative sample of Irish adults, our first objective was to determine the lifetime prevalence estimates of different forms of sexual violence. We also determined the lifetime prevalence estimates of different types of sexual violence during childhood, adolescence, and adulthood, as well as their lifetime co-occurrence. Second, we sought to assess whether there were significant sex differences in the frequency of exposure to different forms of sexual violence during childhood, adolescence, adulthood, and across the lifespan. Third, we sought to determine whether people who had experienced sexual violence were more likely to meet criteria for PTSD, complex PTSD (CPTSD), depression, and generalised anxiety disorder. Finally, we sought to examine the associations between lifetime exposure to each form of sexual violence, adverse mental health, and other life experiences.

Methods

Participants and procedures

A nationally representative sample of non-institutionalised Irish adults were recruited from existing research panels by the Irish based research company, Qualtrics. Stratified, quota

sampling methods were used to select participants so that the sample was representative of the general population in terms of three demographic variables: sex (male and female), age distribution (18-24, 25-34, 35-44, 45-54, 55-64, and 65+), and geographical location (i.e., across the four Irish provinces of Leinster, Munster, Connaught, and Ulster), matching known population parameters from the 2016 Irish census (Central Statistics Office of Ireland, 2016). The four provinces of the Republic of Ireland represent the north (Ulster), south (Munster), East (Leinster), and west (Connaught) of the country. The major cities in Ireland are located in Leinster (Dublin), Muster (Cork), and Connaught (Galway) and all four provinces include a mix of urban and rural locations. Potential participants were contacted via email, text, or in-app notifications and were invited to follow a link to a secure Qualtrics website where they were provided with a detailed study description and asked to provide informed consent, if they wished to participate. The median time for the survey completion was 22 minutes and participants were reimbursed by the survey company for their time. The data were collected in February 2019, and ethical approval was provided by the Social Research Ethics Committee at Maynooth University.

A total of 1,020 people participated (51.0% female), and the mean age was 43.10 years (*Mdn* = 42.00, *SD* = 15.12, range 18-87). The majority (53.9%) resided in Leinster (east of the country including the capital city of Dublin), 26.9% resided in Munster (south of the country), 13.5% resided in Connaught (west of the country), and 5.7% resided in Ulster (north of the country). Most were in a committed relationship (69.5%) and had children (59.4%). For most participants, the highest educational achievement was completing an undergraduate or postgraduate university degree (53.7%), 39.2% completed secondary school but did not attend university, and 7.1% did not complete secondary school. Nearly half of participants were in full-

time employment (45.8%), 17.8% were in part-time employment, 27.7% were retired, homemaking, or a student, and 8.6% were unemployed.

Measures

Indicators of sexual violence

Exposure to sexual violence was measured using the International Trauma Exposure Measure (ITEM) (Hyland et al., 2020), a freely available checklist measuring trauma exposure consistent with the guidelines set forth by the World Health Organisation in the 11th version of the International Classification of Diseases (World Health Organization, 2018). The ITEM includes descriptions of 21 potentially traumatic events and participants indicate if they experienced each event in 'childhood' (0-12 years of age), 'adolescence' (13-18 years of age), or 'adulthood' (19 years of age or older). Lifetime exposure is indicated if a person reported experiencing the event during any of these periods. The ITEM uses a binary response format (i.e., 'Yes' = 1, or 'No' = 0). There are three questions relating to sexual violence. Question 7 asks respondents if they were '*sexually assaulted (anal, vaginal, or oral penetration) by a parent or guardian*'; question 8 asks if they were '*sexually assaulted (anal, vaginal, or oral penetration) by someone other than a parent or guardian*'; and question 9 asks if they were '*sexually harassed (unwanted sexualized comments or behaviours)*'. These three variables also used to create two additional composite variables. If a person indicated that they were sexually assaulted by a parent/guardian *or* by someone other than a parent/guardian, they were deemed to have experienced 'any sexual assault'. If a respondent indicated that they were sexually assaulted by a parent/guardian *or* by someone other than a parent/guardian *or* were sexually harassed, they were deemed to have experienced 'any sexual violence'.

Indicators of mental health

PTSD and CPTSD: The International Trauma Questionnaire (ITQ) (Cloitre, Shevlin, et al., 2018) is a self-report measure capturing all diagnostic requirements for PTSD and CPTSD, as per the ICD-11 guidelines. In the ICD-11, PTSD is defined by six symptoms distributed across three clusters (two symptoms per cluster) reflecting 're-experiencing of the trauma in the here and now', 'avoidance of traumatic reminders', and a 'sense of current threat'. CPTSD was introduced to the diagnostic nomenclature for the first time in the ICD-11 as it is defined by 12 symptoms distributed across six clusters (two symptoms per clusters). Three are shared with PTSD, and the additional symptom clusters reflect problems with 'affective dysregulation', 'negative self-concepts', and 'disturbances in relationships'. These latter symptom clusters are collectively referred to as 'Disturbances in Self-Organisation' (DSO). The ITQ contains 12 items to measure all of the PTSD and DSO symptoms. Both sets of symptoms are accompanied by three items that measure how much impairment these symptoms have caused in social, work/education, and other important areas of life. The PTSD symptoms are answered in relation to how bothersome they have been in the last month, and the DSO symptoms are answered in terms of how a person typically responds, thinks about oneself, or relates to others. All symptom and impairment indicators are based on a five-point Likert scale that ranges from 0 (*Not at all*) to 4 (*Extremely*). The ITQ scores have been shown to have excellent reliability and validity in general population (Ben-Ezra et al., 2018; Cloitre, Hyland, et al., 2018), clinical (Hyland et al., 2017; Karatzias et al., 2017), and refugee (Vallières et al., 2018) samples. The internal reliability of the PTSD (α = .90) and DSO (α = .93) subscale scores in this sample were excellent.

For diagnostic purposes, all symptom and impairment items were dichotomised to reflect their presence (a score of $\geq$ 2 [*Moderately*] on the Likert scale) or absence (a score < 2 on the Likert scale) (Cloitre, Shevlin, et al., 2018). A diagnosis of PTSD requires that a person is

trauma exposed (a positive response to any of the 21 events in the ITEM), that at least one symptom is present from each PTSD cluster, and at least one indicator of functional impairment related to these symptoms is endorsed. A diagnosis of CPTSD is made if all of the PTSD criteria are met, and at least one symptom is present from each DSO cluster, and at least one indicator of functional impairment related to these symptoms is endorsed. The ICD-11 diagnostic rules only permit a diagnosis of PTSD or CPTSD, not both. Thus, if a person meets the diagnostic requirements for CPTSD, that person does not also receive a PTSD diagnosis.

Depression: The Patient Health Questionnaire-9 (PHQ-9) (Kroenke, Spitzer, & Williams, 2001) is a self-report measure of depression. Participants indicate how often they have been bothered by each symptom over the last two weeks using a four-point Likert scale ranging from 0 *(Not at all*) to 3 (*Nearly every day*). Possible scores range from 0 to 27, and a cut-off score of $\geq$ 10 was used to capture potential diagnostic status. This cut-off score produces adequate sensitivity (.85) and specificity (.89) for capturing diagnostic cases (Kroenke et al., 2001). The psychometric properties of the PHQ-9 scores have been widely supported (Manea, Gilbody, & McMillan, 2015) and the internal reliability in this sample was excellent (α = .93).

Generalised anxiety disorder: The Generalized Anxiety Disorder 7-item Scale (Spitzer, Kroenke, Williams, & Lowe, 2006) asks participants to indicate how bothered they have been by each symptom over the last two weeks using the same Likert scale as the PHQ-9. Total scores range from 0-21 and a cut-off score of $\geq$ 10 was used. This cut-off score has been shown to have adequate sensitivity (.89) and specificity (.82) for capturing diagnostic cases (Spitzer et al., 2006). The GAD-7 has excellent reliability and validity (Kertz, Bigda-Peyton, & Bjorgvinsson, 2013), and the internal reliability in this sample was excellent (α = .94).

History of any psychiatric diagnosis: All respondents were asked, 'Has a doctor, psychologist, or psychiatrist ever diagnosed you with a psychiatric disorder or a mental illness?' Participants responded, 'Yes' (1) or 'No' (0).

Life experiences

Selected life experiences included being taken into local authority care before the age of 18 (0 = No, 1 = Yes), having been admitted into hospital in the last year (0 = No, 1 = Yes), having received mental health care services in the last year (0 = No, 1 = Yes), employment status (0 = Employed, retired, student, or homemaking, 1 = Unemployed), income level (0 = At or above the annual median income, 1 = Below the annual median income), educational status (0 = Did not attend university 1 = Attended university), and relationship status (0 = Not in a committed relationship, 1 = In a committed relationship).

Data analysis

The co-occurrence of the different forms of sexual violence (i.e., sexual assault by a parent/guardian, sexual assault by a non-parent/guardian, and sexual harassment) were assessed using a McNemar chi-square (MNχ^2). Sex differences in exposure to each form of sexual violence, as well as differences in mental health problems across those with and without a history of sexual violence, were assessed using a Pearson χ^2 test. Effect sizes for the χ^2 test were represented by phi-coefficient values (φ) where values less than .30 indicate a small effect, values from .30 to .49 indicate a medium effect, and values of .50 or above indicate a large effect (Cohen, 1988). The associations between the different types of sexual violence, mental health and other life experiences, were assessed using binary logistic regression analysis. In all cases, the criterion variables were life experiences and mental health variables. To calculate the unadjusted odds ratios (OR), each form of sexual violence was entered into the binary logistic

regression model individually as a predictor variable. To calculate the adjusted ORs (AOR), the different types of sexual violence – sexual assault by a parent/guardian, sexual assault by a non-parent/guardian, and sexual harassment – were entered into the model as predictor variables simultaneously. Sex and age were also included in the adjusted models as predictor variables.

Results

The occurrence of different types of sexual violence

The prevalence estimates of the different forms of sexual violence across the lifespan and within the three developmental periods are presented in Table 1. A total of 4.6% of people were sexually assaulted by a parent/guardian across the lifespan, and 13.8% of people were sexually assaulted by someone other than a parent or guardian. In total, 14.8% of people experienced sexual assault from either a parent/guardian *or* a non-parent/guardian. Regarding sexual harassment, 31.1% experienced this event across their lifespan. Overall, 34.4% of people experienced some form of sexual violence (i.e., any form of sexual assault or sexual harassment).

Amongst those who were sexually assaulted by a parent/guardian or a non-parent/guardian, 6.5% experienced their abuse during childhood, 6.1% during adolescence, and 4.3% during adulthood. Among those who experienced any form of sexual violence (i.e., sexual assault or sexual harassment), 8.5% experienced their violence during childhood, 15.8% during adolescence, and 16.7% in adulthood.

Table 1 here

The co-occurrence of different types of sexual violence

Across the lifespan, people sexually assaulted by a parent or guardian were at an increased risk of experiencing sexual assault by a non-parent/guardian (78.7%) and sexual harassment (83.0%). Comparatively, 26.2% of people sexually assaulted by a non-

parent/guardian also experienced sexual assault by a parent/guardian and 78.0% also experienced sexual harassment. Of those sexually harassed, 12.3% had also been assaulted by a parent/guardian and 34.7% had been sexually assaulted by a non-parent/guardian. All patterns of co-occurrence were statistically significant (*p*s < .001).

Sex differences in exposure to sexual violence

No statistically significant difference was found in the proportion of men and women sexually assaulted by a parent or guardian. Contrastingly, women were significantly more likely than men to have experienced all other forms of sexual violence (see Table 2). During childhood, women were significantly more likely to have been sexually assaulted by anyone, sexually harassed, and to have experienced any form of sexual violence. During adolescence, women were significantly more likely to have experienced sexual harassment, and any form of sexual violence. Finally, during adulthood, women were significantly more likely to have experienced all forms of sexual violence, with the exception of sexual assault by a parent or guardian.

Table 2 here

Sexual violence and mental health

In the full sample, the prevalence estimates of the different mental health disorders were as follows: PTSD (5.1%, 95% CI = 3.7, 6.5), CPTSD (8.1%, 95% CI = 6.5, 9.8), depression (29.8%, 95% CI = 27.0, 32.6), generalised anxiety disorder (22.3%, 19.7, 24.8), and history of any psychiatric diagnosis (20.1%, 95% CI = 17.6, 22.6). Individuals who had experienced any form of sexual violence (i.e., assault *or* harassment) were significantly more likely than those with no history of sexual violence to meet diagnostic criteria for PTSD (8.0% vs 3.6%, χ^2 (1, 1020) = 9.17, φ = .10), CPTSD (14.2% vs. 4.9%, χ^2 (1, 1020) = 26.71, φ = .16), depression (47.9% vs 20.3%, χ^2 (1, 1020) = 83.43, φ = .29), generalised anxiety (14.9% vs 36.2%, χ^2 (1,

1020) = 60.00, φ = .24), and to have received a psychiatric diagnosis (13.9% vs 31.9%, χ^2 (1, 1020) = 46.49, φ = .21).

In the unadjusted model (see Supplementary File 1), sexual assault by a parent/guardian was significantly associated with all mental health variables. When adjusted for all other types of sexual violence (see Table 3), sex, and age, sexual assault by a parent/guardian remained significantly associated with screening positive for CPTSD (AOR = 2.98), depression (AOR = 4.44), generalised anxiety (AOR= 4.00), and having been diagnosed with any mental disorder (AOR = 2.92). The unadjusted associations between sexual assault by a non-parent/guardian and all mental health variables were statistically significant. In the adjusted model, sexual assault by a non-parent/guardian remained significantly associated with CPTSD (AOR = 2.43), depression (AOR = 2.35), and generalised anxiety (AOR = 1.77). Finally, sexual harassment was significantly associated with each mental health variable in the unadjusted model. In the adjusted model, the associations with CPTSD (AOR = 1.77) depression (AOR = 2.45), generalised anxiety (AOR = 2.33), and having received any psychiatric diagnosis (AOR = 2.14) were statistically significant.

Table 3 here

Sexual violence and other life experiences

In the unadjusted model (see Supplementary File 2), sexual assault by a parent/guardian was significantly associated with all included life experiences, with the exception of employment status and relationship status. In the adjusted model (see Table 4), sexual assault by a parent/guardian remained significantly associated with having been taken into care before age 18 (AOR = 15.44), admittance into hospital in the last year (AOR = 3.68), receiving mental health care in the last year (AOR = 4.94), having an annual income *above* the national median (AOR =

0.34), and being *more* likely to have attended university (AOR = 2.27). The unadjusted associations between sexual assault by a non-parent/guardian and having been taken into care before 18, being admitted into hospital in the last year, and receiving mental health care in the last year were statistically significant. In the adjusted model, only the association with having been taken into care before 18 however, remained statistically significant (AOR = 6.52). In the unadjusted model, sexual harassment was significantly associated with having been taken into care before 18, receiving mental health care in the last year, having an income *below* the national median, and being *more* likely to have attended university. In the adjusted model, sexual harassment was not associated with any of the other life experiences.

Table 4 here

Discussion

Across the lifetime, we found that approximately 1-in-7 people had been sexually assaulted (i.e., raped), and approximately 1-in-3 people had been sexually harassed. The most common form of sexual violence during childhood was sexual assault (by a non-parent or guardian), whereas sexual harassment was the most common form of sexual violence experienced during adolescence, adulthood, and across the lifespan. The co-occurrence of different forms of sexual violence was high, particularly for those who had been raped. We also found that women were more likely than men to have experienced all forms sexual violence; with the notable exception of sexual assault perpetrated by a parent or guardian. Specifically, 1-in-2 women experienced some form of sexual violence in their lifetime, compared to about 1-in-5 men. Additionally, while 1-in-5 women experienced a sexual assault, the figure for men was closer to 1-in-10.

Our results are generally consistent with international data demonstrating that sexual violence is common in the general population (European Union Agency for Fundamental Rights, 2014), that survivors of sexual violence are likely to have experienced more than one type of sexual violence (Barnes, Noll, Putnam, & Trickett, 2009; Desai, Arias, Thompson, & Basile, 2002), and that women are more likely to experience sexual violence (Benjet et al., 2016; World Health Organization, 2017b). While direct comparisons with previous Irish figures derived from the SAVI study are not possible due to the use of different definitions of sexual assault and harassment, as well as different conceptualisations of 'childhood' and 'adulthood' across the studies, some noteworthy findings emerge. For example, in the 2001 SAVI study (McGee et al., 2002), 40.1% of women and 28.6% of men reported 'unwanted sexual experiences' in their lifetime. In our study, 49.0% of women and 19.0% of men reported being sexually assaulted or harassed. It would seem, therefore, that in the intervening two decades, the proportion of women in Ireland who have experienced sexual violence may have increased slightly while the proportion of men who have experienced sexual violence may have decreased slightly. Whether this trend is due to changes in the occurrence of sexual violence, or a greater willingness to report such experiences, potentially facilitated by recent high-profile movements such as "Me Too", however, remains unclear. Furthermore, many men in Ireland were exposed to sexual abuse during the 20th century as a result of clerical and institutional abuse (Carr et al., 2010), and the passage of time and changing demography may account for at least some of this decline. While these explanations are largely conjecture, what can be confidently concluded is that sexual violence is a common experience for many people in the general population of Ireland and that sexual violence disproportionately affects women.

Individuals who had experienced any form of sexual violence were significantly more likely than those with no history of sexual violence to meet diagnostic criteria for all assessed forms of psychological distress. While we found all forms of sexual violence to be independently and strongly associated with an increased likelihood of adverse mental health effects, sexual assault by a parent or guardian was associated with the most deleterious mental health consequences. Specifically those sexually assaulted by a parent or guardian were three times more likely to meet diagnostic requirements for CPTSD, and to have received an actual diagnosis of a psychiatric disorder in their lifetime; were four times more likely to meet criteria for generalised anxiety disorder; and were nearly four-and-a-half times more likely to meet criteria for depression. Those who were sexually assaulted by someone other than a parent or guardian were also nearly two-times more likely to screen positive for generalised anxiety disorder, and nearly two-and-a-half times more likely to screen positive for depression and CPTSD. Additionally, those who experienced sexual harassment were about two-times more likely to have received a psychiatric diagnosis and to have met diagnostic requirements for CPTSD, and about two-and-a-half times more likely to have screened positive for depression and generalised anxiety disorder. Given the cross-sectional nature of the study, and the fact that persons with serious mental health problems are more likely to be the victims of serious violence (Khalifeh et al., 2015) however, we cannot make any inferences regarding causality. Nonetheless, the existing body of evidence strongly suggests that exposure to sexual violence is a causal factor in the development of mental health problems (Lewis et al., 2019; Varese et al., 2012).

In contrast to psychological problems however, we found few associations between experiencing sexual violence and other negative life experiences. Specifically, once we had

accounted for the high degree of co-occurrence between different forms of sexual violence, no associations were found between life experiences and a history of sexual harassment, and a history of sexual assault by a non-parent/guardian was only associated with a greater likelihood of having been removed from one's home before the age 18. Moreover, and while having experienced sexual assault by a parent or guardian was associated with a greater likelihood of having been taken in state care before age 18 and having accessed hospital and mental health care in the last year, survivors of sexual assault by a parent or guardian were *more* likely to have attended university and to be earning a salary *above* the national median. It seems, therefore, that despite the early life disruption and need for ongoing healthcare, survivors of parental/guardian sexual assault are highly resilient. These results are consistent with extant evidence that the removal of children from dysfunctional and abusive homes can experience increased positive social outcomes (Kendler et al., 2016) and that exposure to sexual violence is not necessarily associated poor functioning in the general population. Indeed, some individuals who experience sexual violence develop post-victimization resiliency (Domhardt, Münzer, Fegert, & Goldbeck, 2015). However, given that our sample was drawn from non-institutionalised members of the general population, and there is a well-established literature showing that childhood sexual trauma is common among those who are institutionalised (e.g., in prison and psychiatric facilities) (Karatzias et al., 2019), these results should be interpreted cautiously.

Policy and practice implications

This study provides an important contribution to the Irish sexual and mental health literature and is aligned with the Irish government's newly published mental health policy, *Sharing the Vision*, which acknowledges that 'people who have experienced domestic, clerical, institutional, sexual or physical abuse' are particularly vulnerable to poor mental health

(Department of Health of Ireland, 2020, p. 31). Our findings also point to other implications for policy and practice in Ireland. Firstly, and recognising the scale of sexual violence, comparable data must regularly be collected over time to properly track changes in the occurrence of sexual violence in society, and to identify the societal factors that are associated with, or cause, an increase/decrease in its occurrence. Additionally, greater mental health care resources are urgently required to adequately address the mental health needs of survivors of sexual violence. Specifically, there is a need to further invest in mental health care resources offered outside of formal, more medicalised settings, including within rape crisis centres and domestic violence services. Access to mental health care within these contexts is particularly important given that these services act as a first point of contact for people who have experienced sexual assault - likely because they commonly make their services available without pressure to report their sexual assault to authorities, are accessible regardless of the length of time since the assault or one's ability to pay for services, and that they offer alternative, confidential methods of access to care (e.g. National 24-hour telephone hotlines). Ensuring a continuum of quality mental health services within non-medical settings however, requires that Ireland take a more inter-departmental approach, spanning the legal, health, social policy, and policing sectors, and that coordination is ideally led by a single government department (World Health Organization, 2017a). Finally, and given the known mental health consequences of sexual violence in childhood, better screening and training should be made available to teachers and other childcare workers to detect signs of child sexual abuse, as part of strengthening existing government guidance, including Ireland's *Children First: National Guidance for the Protection and Welfare of Children* (Department of Children and Youth Affairs, 2017), for example.

Limitations and future directions

This study is not without limitations. First, reluctance to disclose sexual violence, especially among men (Holmes, Offen, & Waller, 1997), together with the aforementioned exclusion of people in institutionalised care settings, suggests that our findings likely represent a lower-end estimate of the true adult population prevalence of sexual violence in the Republic of Ireland. Relatedly, we did not collect data on several demographic variables that may be of relevance to sexual violence such as race and sexual orientation. Second, the survey included a limited number of questions to address sexual violence experiences. We do not claim to have measured all possible forms of sexual violence, and we did not capture some specific forms of sexual violence, such as intimate partner violence. Third we were unable to determine the participant response rate, and we could only quota sample on three demographic variables, both of which pose threats to the representativeness of the sample. Finally, we included a limited set of mental health indicators, and future studies would benefit from the inclusion of a more varied set of indicators of psychosocial functioning.

Conclusion

In conclusion, this study provides vital and timely information about the occurrence, co-occurrence, and correlates of sexual violence within the general population of the Republic of Ireland. Our results demonstrate that sexual violence is a common experience, disproportionately affects women, and that all forms of sexual violence carry an increased risk of adverse mental health problems, whereby sexual assault perpetrated by a parent or caregiver is particularly pernicious for one's mental health. It is also the case however, that while survivors of sexual violence bear the psychological scars of their traumatic experiences, they are, nevertheless, extremely resilient in their day-to-day lives. The importance of prioritising access to mental health care for those who have experienced sexual violence cannot be understated. In addition,

regularly updated statistics on the prevalence of sexual violence in Ireland – and other jurisdictions – are urgently needed. And while it is encouraging that the Government of Ireland announced in 2018 the establishment of a decennially conducted national survey of sexual violence experiences, progress towards realising this must be accelerated.

Notes

[1] The SAVI study differentiates between *sexual abuse*, defined as any sexual offences committed against a person aged under 17 years and includes both contact and non-contact (i.e. indecent exposure and exposure to pornography) forms of abuse; *sexual assault*, defined as any physical contact committed against adults (i.e. aged 17 or older) and combines the legal categories of sexual assault and rape; and *sexual harassment* as a broad definition, encompassing nine items from the Sexual Experiences Questionnaire (SEQ-DoD), as experienced in the last twelve months.

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Table 1. Prevalence estimates with 95% confidence intervals for each type of sexual violence in childhood, adolescence, adulthood, and across the lifespan, self-reported in adulthood in Ireland (N = 1,020).

	Childhood % (95% CI)	Adolescence % (95% CI)	Adulthood % (95% CI)	Lifetime % (95% CI)
Sexual assault by parent/guardian.	2.1 (1.2, 2.9)	1.8 (0.9, 2.6)	0.8 (0.2, 1.3)	4.6 (3.3, 5.9)
Sexual assault by non-parent/guardian.	5.3 (3.9, 6.7)	4.8 (3.5, 6.1)	3.7 (2.6, 4.9)	13.8 (11.7, 15.9)
Sexual assault by parent/guardian or non-parent/guardian.	6.5 (5.0, 8.0)	6.1 (4.6, 7.5)	4.3 (3.1, 5.6)	14.8 (12.6, 17.0)
Sexual harassment.	4.3 (3.1, 5.6)	12.4 (10.3, 14.4)	14.4 (12.3, 16.6)	31.1 (28.2, 33.9)
Sexual assault or harassment.	8.5 (6.8, 10.2)	15.8 (13.5, 18.0)	16.7 (14.4, 19.0)	34.4 (31.5, 37.3)

Note: 95% CI = 95% Confidence Intervals.

Table 2. Sex differences in rates of exposure to different types of sexual violence in childhood, adolescence, adulthood, and lifetime.

	Childhood		Adolescence		Adulthood		Lifetime	
	Female %	Male %	Female %	Male %	Female %	Male %	Female %	Male %
SA parent/guardian	2.3	1.8	1.9	1.6	0.4	1.2	4.6	4.6
	$\chi^2 = 0.33$, p = .568		$\chi^2 = 0.15$, p = .695		$\chi^2 = 2.18$, p = .140		$\chi^2 = 0.00$, p = .991	
	OR = 1.29 (0.54, 3.09)		OR = 1.21 (0.47, 3.08)		OR = 0.32 (0.06, 1.58)		OR = 1.00 (0.56, 1.80)	
SA other	6.5	4.0	5.8	3.8	6.3	1.0	18.7	8.8
	$\chi^2 = 3.28$, p = .070		$\chi^2 = 2.16$, p = .142		$\chi^2 = 20.31$, p < .001		$\chi^2 = 20.78$, p < .001	
	OR = 1.68 (0.95, 2.96)		OR = 1.55 (0.86, 2.79)		OR = 6.71 (2.60, 17.33)		OR = 2.38 (1.63, 3.48)	
Sexual Assault	8.1	4.8	7.5	4.6	6.5	2.0	20.0	9.4
	$\chi^2 = 4.52$, p = .033		$\chi^2 = 3.76$, p = .053		$\chi^2 = 12.72$, p < .001		$\chi^2 = 22.71$, p < .001	
	OR = 1.74 (1.04, 2.92)		OR = 1.68 (0.99, 2.86)		OR = 3.43 (1.68, 7.02)		OR = 2.41 (1.67, 3.49)	
Sexual Harassment	6.0	2.6	16.3	8.2	22.9	5.6	45.2	16.4
	$\chi^2 = 6.98$, p = .008		$\chi^2 = 15.62$, p < .001		$\chi^2 = 61.74$, p < .001		$\chi^2 = 98.65$, p < .001	
	OR = 2.38 (1.23, 4.59)		OR = 2.19 (1.47, 3.25)		OR = 5.00 (3.25, 7.71)		OR = 4.20 (3.14, 5.63)	
SA or SH	11.2	5.8	20.6	10.8	26.0	7.0	49.2	19.0
	$\chi^2 = 9.37$, p = .002		$\chi^2 = 18.33$, p < .001		$\chi^2 = 65.99$, p < .001		$\chi^2 = 103.21$, p < .001	
	OR = 2.04 (1.28, 3.24)		OR = 2.14 (1.50, 3.05)		OR = 4.66 (3.14, 6.92)		OR = 4.13 (3.12, 5.48)	

Note: SA = sexual assault; SH = sexual harassment; χ^2 = chi-square test of independence; p = level of statistical significance; OR (95% CIs) = odds ratios with 95% confidence intervals; all chi-square tests have one degree of freedom.

Table 3. Adjusted odds ratios for the associations between the different types of sexual violence and indicators of mental health.

	Sexual assault parent/guardian	Sexual assault other	Sexual harassment
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Posttraumatic stress disorder	1.99 (0.68, 5.83)	0.86 (0.37, 2.00)	1.83 (0.96, 3.50)
Complex posttraumatic stress disorder	2.98** (1.38, 6.47)	2.43** (1.30, 4.50)	1.77* (1.01, 3.09)
Depression	4.44*** (2.00, 9.85)	2.35*** (1.53, 3.61)	2.45*** (1.79, 3.36)
Generalized anxiety disorder	4.00*** (2.00, 8.03)	1.77* (1.13, 2.76)	2.33*** (1.66, 3.27)
Any psychiatric diagnosis	2.92** (1.47, 5.78)	1.45 (0.91, 2.32)	2.14*** (1.48, 3.09)

Note: AOR = Adjusted odds ratio; 95% CI = 95% confidence intervals; all associations are adjusted for other types of sexual violence, sex, and age; * $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 4. Adjusted odds ratios for the associations between the different types of sexual violence and other life experiences.

	Sexual assault parent/guardian	Sexual assault other	Sexual harassment
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Taken into state care	15.44*** (5.56, 42.90)	6.52** (2.15, 19.77)	1.10 (0.38, 3.21)
Hospital admission	3.68*** (1.87, 7.26)	1.51 (0.95, 2.41)	0.98 (0.68, 1.41)
Mental health care	4.94*** (2.44, 10.01)	1.45 (0.89, 2.44)	1.42 (0.95, 2.13)
Unemployed	0.25 (0.05, 1.13)	1.43 (0.72, 2.81)	1.14 (0.67, 1.64)
Income below median	0.34** (0.17, 0.67)	1.12 (0.67, 1.88)	1.29 (0.89, 1.85)
Attended university	2.27* (1.11, 4.64)	0.77 (0.50, 1.18)	1.27 (0.93, 1.73)
In a relationship	1.90 (0.88, 4.07)	0.94 (0.59, 1.47)	0.96 (0.69, 1.34)

Note: AOR = Adjusted odds ratio; 95% CI = 95% confidence intervals; all associations are adjusted for other types of sexual violence, sex, and age; * $p < .05$, ** $p < .01$, and *** $p < .001$

Suppl File 1. Unadjusted odds ratios for the association between different types of sexual violence and indicators of mental health.

	Sexual assault parent/guardian	Sexual assault other	Any sexual assault	Sexual harassment	Any sexual violence
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Posttraumatic stress disorder	2.95*	1.73	2.24*	2.33**	2.33**
	(1.91, 7.30)	(0.87, 3.45)	(1.18, 4.23)	(1.33, 4.08)	(1.33, 4.08)
Complex posttraumatic stress disorder	8.67***	5.07***	5.16***	3.23***	3.20***
	(4.57, 16.44)	(3.13, 8.21)	(3.20, 8.32)	(2.04, 5.09)	(2.02, 5.07)
Depression	11.21***	4.92***	5.18***	3.56***	3.60***
	(5.25, 23.52)	(3.39, 7.13)	(3.60, 7.45)	(2.68, 4.73)	(2.72, 4.77)
Generalized anxiety disorder	8.51***	3.79**	4.20***	3.23***	3.23***
	(4.52, 16.03)	(2.61, 5.49)	(2.92, 6.04)	(2.38, 4.39)	(2.38, 4.37)
Any psychiatric diagnosis	6.03***	2.99***	3.29***	2.84***	2.90***
	(3.31, 10.99)	(2.04, 4.39)	(2.27, 4.77)	(2.07, 3.89)	(2.12, 3.97)

Note: OR = Unadjusted odds ratio; 95% CI = 95% confidence intervals; * $p < .05$, ** $p < .01$, and *** $p < .001$.

Suppl File 2. Unadjusted odds ratios for the association between different types of sexual violence and other life experiences.

	Sexual assault parent/guardian	Sexual assault other	Any sexual assault	Sexual harassment	Any sexual violence
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Taken into state care	59.32*** (26.35, 133.54)	22.33*** (9.81, 50.87)	24.43*** (10.35, 57.67)	6.03*** (2.76, 13.19)	8.84*** (3.60, 21.69)
Hospital admission	4.99*** (2.73, 9.10)	2.09*** (1.43, 3.04)	2.28*** (1.58, 3.28)	1.28 (0.95, 1.74)	1.38* (1.03, 1.85)
Mental health care	9.05*** (4.90, 16.72)	3.15*** (2.13, 4.68)	3.68*** (2.51, 5.39)	2.33*** (1.67, 3.24)	2.62*** (1.88, 3.64)
Unemployed	0.46 (0.11, 1.92)	1.31 (0.73, 2.36)	1.20 (0.67, 2.16)	1.23 (0.78, 1.94)	1.36 (0.87, 2.12)
Income below median	0.47* (0.26, 0.85)	1.13 (0.76, 1.69)	1.07 (0.73, 1.58)	1.52** (1.12, 2.07)	1.44* (1.07, 1.93)
Attended university	2.34** (1.22, 4.48)	1.11 (0.78, 1.59)	1.20 (0.85, 1.71)	1.34* (1.02, 1.75)	1.38* (1.07, 1.80)
In a relationship	1.46 (0.73, 2.91)	1.00 (0.68, 1.47)	0.97 (0.67, 1.40)	0.97 (0.73, 1.30)	0.94 (0.71, 1.25)

Note: OR = Unadjusted odds ratio; 95% CI = 95% confidence intervals; * $p < .05$, ** $p < .01$, and *** $p < .001$.